IN THE CLAIMS

1. (Currently amended) A method for producing a surface-modified material for a cathode material, comprising the steps of

(i) treating a bulk of material with a solution containing a first solvent and at least one flocculant comprising a soluble polymer so that the flocculant adheres to the bulk;

(ii) subsequently contacting the flocculant-treated bulk of step (i) with a dispersion containing a second solvent and a particulate solid particle(s) to deposit the particulate solid particles on the flocculant-treated bulk ; and

(iii) subsequently treating the resultant of step (ii) with heat at a temperature of more than about 550 °C to create a concentration gradient of one or more dopant or substituent element(s) from the surface to the bulk, and/or core-shell materials with the core and the shell(s) being different distinct phases,

wherein the surface modified material is a cathode material with modified surface layers for Li batteries, Li-ion batteries, Li polymer batteries, and Li-ion polymer batteries, where an original cathode material is coated with fine-particulate solid particles, and

wherein the bulk of material is $LiCoO_2$, and

wherein the dispersion of step (ii) is a dispersion solution of TiO_2~~ or Al_2O_3~~, and the particulate solid particle(s) is TiO_2~~ or Al_2O_3~~.

2. (Canceled).

3. (Previously presented) The method according to claim 1, wherein each of the first solvent and second solvent is independently water, non-aqueous solvents, mixtures of non-aqueous solvents, or mixtures of non-aqueous solvents with water.

4. (Canceled).

5. (Original) The method according to claim 1, wherein the soluble polymer is selected from the group consisting of water-soluble proteins and polysaccharides, and derivatives thereof.

6. (Canceled) .

7. (Original) The method according to claim 1, wherein the dispersion of step (ii) contains more than one type of particulate solid particles so that more than one type of particulate solid particles are coated on the bulk.

8. (Original) The method according to claim 1, wherein the step (ii) is repeated twice or more before performing step (iii) and the dispersion of each step (ii) contains the same or different type of particulate solid particles so that one or more type of particulate solid particles are coated on the bulk.

9. (Original) The method according to claim 1, wherein the step (i), (ii) and (iii) are repeated twice or more and the dispersion of each step (ii) contains the same or different type of particulate solid particles so that one or more type of particulate solid particles are coated on the bulk.

10. to 12. (Canceled).

13. (Original) The method according to claim 1, wherein the heat-treatment of the step (iii) induces a partial or complete reaction between the bulk and the particulate solid particles coagulated on the bulk with the formation of one or more new phases.

14. to 27. (Canceled) .

28. (Previously presented) The method according to claim 1, wherein the heating at a temperature of more than about 550 °C is for up to about four hours.